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# ARGIA

THE NEWS JOURNAL OF THE DRAGONFLY SOCIETY OF THE AMERICAS

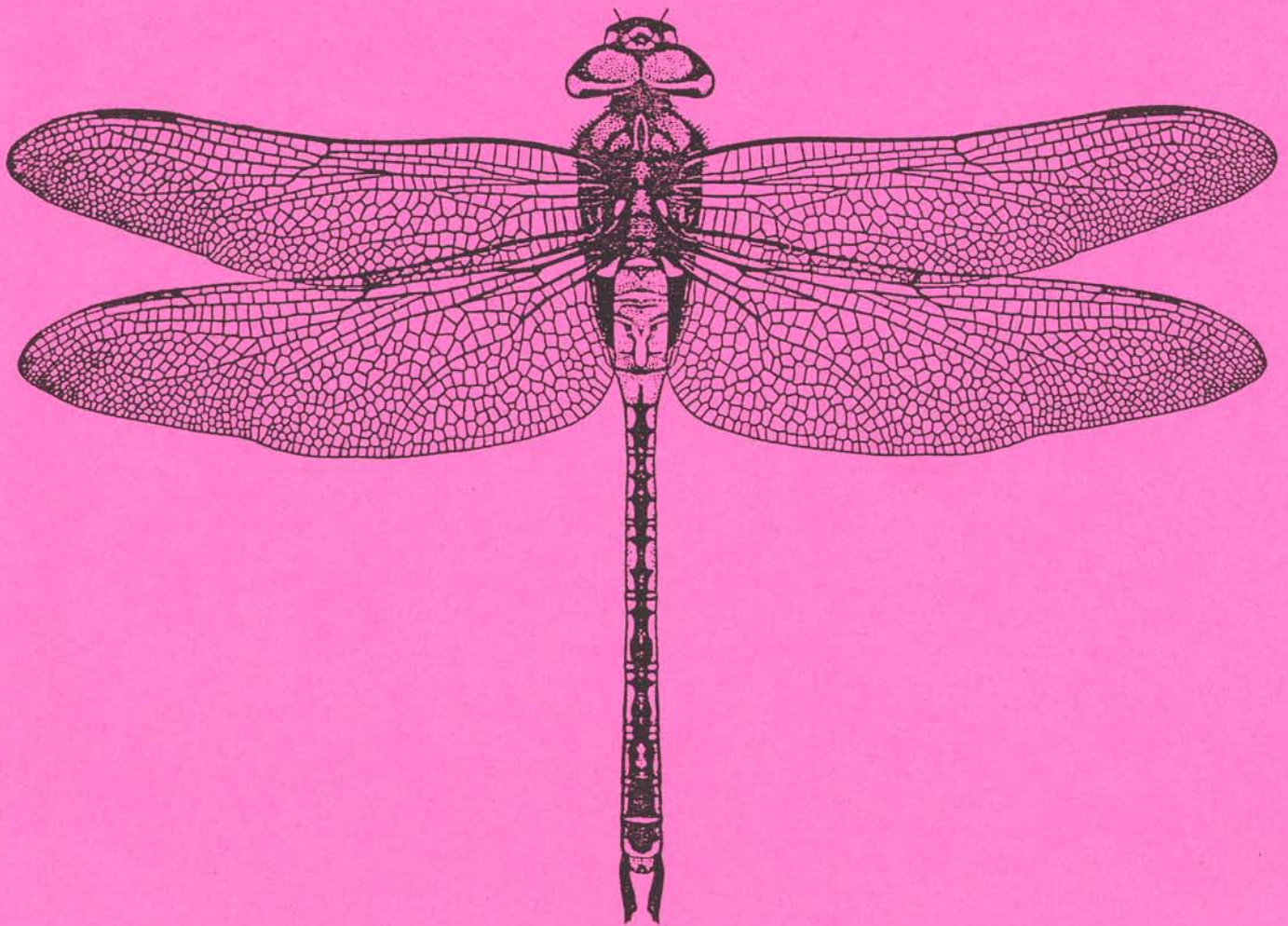
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# THE DRAGONFLY SOCIETY OF THE AMERICAS

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## JOURNALS PUBLISHED BY THE SOCIETY

**ARGIA**, the quarterly news journal of the **DSA**, is devoted to non-technical papers and news items relating to nearly every aspect of the study of Odonata and the people who are interested in them. The editor especially welcomes reports of studies in progress, news of forthcoming meetings, commentaries on species, habitat conservation, noteworthy occurrences, personal news items, accounts of meetings and collecting trips, and reviews of technical and non-technical publications. Articles for publication in **ARGIA** should preferably be submitted and hard copy and (if over 500 words) also on floppy disk (3.5" or 5.25"). The editor prefers MS DOS based files, preferably written in WORD, WORD for WINDOWS, WordPerfect, or WordStar. Macintosh WORD disks can be handled. All files should be submitted **unformatted and without paragraph indents**. Each submission should be accompanied by a text (=ASCII) file. Other languages should be submitted only as text (=ASCII) files. Line drawings are acceptable as illustrations.

T. Donnelly (address above) is the interim editor of **ARGIA**.

**BULLETIN OF AMERICAN ODONATOLOGY** is devoted to studies of Odonata of the New World. This journal considers a wide range of topics for publication, including faunal synopses, behavioral studies, ecological studies, etc. The **BAO** publishes taxonomic studies but will not consider the publication of new names at any taxonomic level. Enquiries and submission of manuscripts should be made to **BAO** editor T. Donnelly, 2091 Partridge Lane, Binghamton NY 13903. Final submissions (after review) should be made on floppy disk, as above, with illustrations in final form and preferably adjusted to final size.

## MEMBERSHIP IN THE DRAGONFLY SOCIETY OF THE AMERICAS

Membership in the **DSA** is open to any person in any country. Dues for individuals are \$10 for regular membership and \$15 for contributing membership, payable annually on or before 1 March of membership year. Institutional (e.g. libraries or universities) membership is \$15 per year. All members receive **ARGIA** via surface mail at no additional cost. For delivery by first class in the U.S. there is an additional charge of \$4, and for Air Mail delivery outside the U.S. a charge of \$10.

The **BULLETIN OF AMERICAN ODONATOLOGY** is available by a separate subscription at \$15 for members and \$18.75 for non-members and institutions.

Cover: *Anax junius*, by Paul-Michael Brunnelle. An enlargement of this drawing was tacked to trees, etc., to guide participants to the site of the Quebec meeting. The signs were put up shortly after the participants had found the cottage anyway.



probably be able to go ahead with a northeastern US and eastern Canada series of maps.

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## **BULLETIN OF AMERICA ODONATOLOGY - RECENT TITLES**

**THE ODONATA OF OHIO - A  
PRELIMINARY REPORT**, Robert C.  
Glotzhofer 3(1): 1 - 30

**FOUR DECADES OF STABILITY AND  
CHANGE IN THE ODONATA  
POPULATIONS AT TEN ACRE POND IN  
CENTRAL PENNSYLVANIA**, Clark N. Shiffer  
and Harold B. White 3(2): 31 - 41

**DESCRIPCION E HISTORIA NATURAL DE  
LAS LARVAS DE ODONATOS DE COSTA  
RICA. IV: MECISTOGASTER ORNATA  
(RAMBUR, 1842) (ZYGOPTERA,  
PSEUDOSTIGMATIDAE).**[Description and  
Natural History of Odonata larva of Costa Rica.  
IV. *Mecistogaster ornata* (Rambur, 1842)  
(Zygoptera, Pseudostigmatidae), Alonso Ramírez  
3(2): 43-47

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**From THE DRAGON-FLIER** (Newsletter of the  
Ohio Dragonfly Society)

The June 1995 issue features the matter of endangered species of Odonata from Ohio. It tells us that Ohio has named no less than 17 species Endangered, including many species which are fairly common in nearby states (*Tetragoneuria canis*, *Cordulia shurtleffi*, *Dorocordulia libera*, and *Aeshna canadensis* are examples). 32 additional species are listed of "special interest".

Another news note tells us that the recently published Ohio list (**BULLETIN OF AMERICA ODONATOLOGY**, vol. 3, no. 1, 1995) is already out of date - Bernie Counts has taken *Neurocordulia molesta* and found additional specimens in collections from no less than nine counties! This all goes to show the power of publication of a state list!

The newsletter also tells us of the activities of younger workers in Ohio. Two students at

Marietta College (Dirk Westfall and Amy Wooddell) both presented papers on Odonata at the meeting of the Ohio Academy of Sciences.

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## **NEW MEXICO -DSA ANNUAL MEETING AND ARIZONA SIDE TRIP**

**Jerrell Daigle**

**August 5:** The DSA banquet will begin Saturday night at 5:00 pm in our reserved Red Barn banquet room. The Mexican style buffet (\$9.95) will be catered by your hostess, Loretta Martin. Attendance is not mandatory and one can make other dinner arrangements in the main dining room or elsewhere in Silver City. The DSA meeting will begin at 7:00 pm after the tables are cleared by the hostess. At this time, we will be joined by approximately 8-20 members of the local Gila River Watch Society, led by Susan Schock. All DSA business including introductions, opening remarks, the election of officers, treasurers' report, 1996 DSA site presentations, etc. will be conducted first. For those of you planning on presenting a 1996 DSA meeting site "dog and pony show", please let me know so I can schedule it. Afterwards, a slide show on the local Odonata fauna will be presented by Sid Dunkle. Then, we will select team leaders for the Gila River collecting trips and discuss Sunday's game plan. The meeting will adjourn before 10:00 pm (restaurant closing time).

**August 6:** Early departure! Collect at Grapevine Campground and vicinity in the mountains. We have the necessary collecting permits. Approximately 2 hour caravan drive on Hwy. 15.

**August 7:** Normal departure after DSA group pictures by Clark Shiffer, 1995 DSA photographer. Collect at nearby Mangas Springs and town of Cliff. Led by Ralph Fisher and locals.

Additional slide shows, presentations, exchange of specimens, etc., will be conducted Monday evening from 7:00 pm to 10:00 pm in the same room. Please inform me (phone numbers below) if you wish to make a presentation so I can that I schedule it. I have tentatively allotted 15 minutes for each person but this can be modified

depending on the time available and number of presentations.

Motel: Copper Manor - 710 Silver Heights Road (US 180) tel. (800) 853-2916

Ask for Sheila and mention "Dragonfly Society of America" convention. Thirty (30) rooms are reserved. On site Red Barn Restaurant has meeting room reserved for Saturday with an option for Monday.

Rates: \$41.00 plus tax for 2 people/ 2 double beds. \$34.00 plus tax for 1 person. All rooms have 2 double beds

Swimming pool, restaurant, and lounge.

#### Optional Side Trip to Douglas, Arizona

**August 8:** Travel to Douglas. Get rooms at Motel 6 at 111 16th Street. Tel (602) 364-2457. Ask for Camille and mention "Dragonfly Society of America" convention. The Grand Cafe can serve dinner.

Rates: \$35.36 total for 2 people/all rooms with 2 beds. (25 rooms are reserved)

**August 9:** Collect at relaxing King Ranch. \$3.00 fee/person.

**August 10:** San Bernardino Wildlife Refuge. We have permits for the refuge. Leslie Canyon is unlikely due to permit restrictions on large groups. However, a very small group is possible for Leslie Canyon.

If you have any questions, please let me know. I suggest calling Silver City and Douglas to get your pick of the rooms. Sid Dunkle, Rosser Garrison, Ralph Fisher, and myself will be available to lead one or more groups. Ralph and Susan Schock know of alternative sites that Sid, Rosser, and I have not collected at before and where no permits are necessary. I would like everyone to be prepared and bring a hat, such as a cowboy hat, suntan lotion, water, and a packed lunch on all trips. Let's head 'em up and move 'em out! See you all amigos there!

For further information call Jerrell Daigle at 904 488 0780 (office), or 904 878 8787 (home). e-mail address: **DAIGLE\_J@DEP.STATE.FL.US**.

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#### MEETING IN ITALY IN 1996

From the S.I.O. office in the Netherlands comes a notice of a workshop on Odonata at the International Entomological Congress in Florence in August 1996. The contact for this meeting is Gianmaria Carchini, Dipartimento di Biologia, Universita degli Studi di Roma "Tor Vergata", Via della Ricerca Scientifica, 00133 Roma. His telephone is 39-6-72594391-392.

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#### NEW AND NOTEWORTHY RECORDS

Richard Orr told me recently that he has added *Neurocordulia virginiensis* to the list for Maryland. A teneral female was found on the Potomac River at McKee Beshel Wildlife Management Area, Montgomery Co. MD, on 25 May 1995.

Paul-Michael Brunnelle found the first *Nasiaeschna pentacantha* for New Brunswick at the ADIP meeting 28-30 June 1995. The locality was near the St. Croix River in Charlotte Co., NB.

Steve Roble provided us with yet more malaise trap Odonata records. *Cordulegaster obliqua*, *Gomphus rogersi*, *Nasiaeschna pentacantha*, *Somatochlora provocans*, and *Tachopteryx thoreyi* were all taken by David R. Smith, USDA, in Clarke and Essex Co., VA.

Blair Nikula has recently made an interesting observation on *Ophiogomphus* (mainly *mainensis*) from New Hampshire. He found that they liked to land on a black-top road, squarely in the yellow stripe in the middle of the road. A few became road kill. Have you heard of anything like this?

Ailsa and Nick Donnelly recently went to the Adirondacks for a few days. Ailsa snagged the first New York record for *S. franklini*. They established three new records for *Somatochlora forcipata*, one each for *S. minor* and *walshii*. These were all taken at Spring Pond Bog, Franklin Co. (A Nature Conservancy property) or in nearby

woods, except that one of the *forcipata* was taken at Hitchins Pond Bog in St. Lawrence Co.

Skip Blanchard JUST phoned in from Long Island to tell me that he has taken *Enallagma minusculum* and *Nehalennia integricollis* on Long Island. Both of these were taken many years ago, but we all feared they had been extirpated. He also found several *Libellula axilena* but is uncertain that they are not strays rather than resident. Ranging upstate, he found *Aeshna mutata* in Sullivan Co. (county record) on the Basher Kill.

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#### **OPHIOGOMPHUS ANOMALUS IN THE NEWS**

##### **Nick Donnelly**

This spring has brought no fewer than four accounts of this interesting and elusive gomphid. Bob Barber mentions elsewhere in this issue the finding of three populations of this species (along with scarce *howei*!) on the upper Hudson River, New York. I mention elsewhere also the occurrence that Benoit Menard and Raymond Hutchinson showed me and John Michalski on the Riviere Petite-Nation in southern Quebec. Both of these occurrences are of exuviae only.

Peter Burke has just e-mailed me the following account: "I was able to get up into the east side of Algonquin Park in Ontario on 26 and 27 June. Two friends and myself checked various rivers for Odonates and we were pleased with the 40 or so species we found. Our best find had to be the very species you were seeking in Quebec-*Ophiogomphus anomalus*. We captured two males and saw several more individuals on a set of rapids on the Petawawa River. Walker found exuviae in Pembroke, which is downriver of our site. The river is long and no doubt more locations exist with the species."

I have just talked with Paul-Michael Brunnelle of Halifax who led the ADIP (Atlantic Dragonfly Inventory Project) meeting on the St. Croix River of southern New Brunswick. During that meeting the group found the species along the shore of the river. Paul-Michael told me that he heard a rustle in a fern and swung at an unknown odonate. In his net was a pair of *O. anomalus*, with the female busily chewing on the male. He thought that this

might represent genuine cannibalism. Any similar experiences or other ideas?

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#### **FIRST RECORD OF *BASIAESCHNA JANATA* FROM MANITOBA**

##### **Dennis Paulson**

Slater Museum of Natural History  
University of Puget Sound, Tacoma, WA 98416

I collected a female *Basiaeschna janata* that I believe is the first record for Manitoba and a slight extension of the northwest edge of the range. Collection data: MB, 5 mi. E Lac du Bonnet, 5 June 1982, D. R. Paulson, 1 female, DRP collection. The specimen, just post-teneral, was taken at the roadside in boreal forest about 50 km west of the Ontario border.

The specimen is of special interest because, with abdomen (including appendages) 45.5 mm and hind wing 39 mm, it is at least 10% larger than all other specimens of this species in my collection, including 9 males and 9 females from Connecticut, Pennsylvania, North Carolina, Missouri, and Texas. Although appearing huge in contrast with my other specimens, it does not exceed the variation in published female measurements of abdomen 40-46 mm, hind wing 34.5-40 mm (Walker, E. M., *The Odonata of Canada and Alaska*, Vol. II, 1958).

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#### **FIRST RECORD OF *MIATHYRIA MARCELLA* IN VIRGINIA**

##### **Steven M. Roble**

Division of Natural Heritage  
Virginia Dept. of Conservation and Recreation  
1500 East Main Street, Richmond, VA 23219

The odonate fauna of Virginia consists of approximately 130 dragonflies and 53 damselflies (Carle, 1978, 1979, 1982, 1991; Roble, 1994). Carle (1982) provided detailed collection information for all species of Anisoptera confirmed from the state as of that date. He also discussed more than 50 hypothetical species, acknowledging that many of them were unlikely to occur in Virginia. Two of these species (*Gomphus apomyius* and *Macromia margarita*) have since been documented in Virginia (Carle, 1991). One additional species (*Gomphus septima*)

was reported from the state solely on the basis of sight records (Carle, 1991), but subsequent surveys (Pague, 1992) failed to confirm its presence at the single reported site.

While compiling records for my recent paper (Roble, 1994) on Virginia Zygoptera, I identified or reconfirmed all specimens in the Division of Natural Heritage collection. In doing so, I came across several envelopes containing previously unidentified Anisoptera, including a male specimen of a *Tramea*-like libellulid that was unfamiliar to me. I promptly ran it through the keys of Needham and Westfall (1955) and determined it as *Miathyria marcella*. Comparison with the photograph and description in Dunkle (1989) confirmed my identification. The specimen was collected by Kurt A. Buhlmann (a former Division of Natural Heritage zoologist) on 8 June 1990 in Seashore State Park, City of Virginia Beach. This is the first record of this species from Virginia and confirms yet another of Carle's (1982) many hypothetical species. Dunkle (1989) reported that *M. marcella* is primarily a tropical species which had previously been found as far north as Georgia. It has not yet been recorded from either North Carolina (Duncan Cuyler, pers. comm.) or South Carolina (White et al., 1980).

The Virginia specimen has been deposited in the National Museum of Natural History (Smithsonian Institution). I thank Oliver S. Flint, Jr., for verifying my identification.

(References after next article)

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## NEWS FROM VIRGINIA

### Steve Roble

The zoological staff of the Division of Natural Heritage, Virginia Department of Conservation and Recreation, which consists of myself, Chris Hobson and Dirk Stevenson, is actively surveying Odonata as part of our statewide rare animal species inventory efforts. Below is a summary of active projects and recent discoveries:

In the Fall 1994 issue of *Banisteria*, the journal of the Virginia Natural History Society, I published a paper which provides preliminary distribution and flight period data for the 53 species of damselflies known from the state. The full citation is:

Roble, S. M. 1994. A preliminary checklist of the damselflies of Virginia, with notes on distribution and seasonality (Odonata: Zygoptera). *Banisteria* 4: 3-23. Anyone desiring a copy of this paper should call (804-786-8633) or write me.

*Gomphus (Stenogomphurus) consanguis*, a federal candidate species, was targeted for intensive surveys by the Division of Natural Heritage in June 1995 with funding provided by the U.S. Fish and Wildlife Service and the Virginia Department of Agriculture and Consumer Services. Prior to our surveys this species was known from only two sites in the extreme southwestern part of the state (Carle, 1991). On June 1, Leroy Koch (U.S. Fish and Wildlife Service, Abingdon, VA) and I visited Frank Carle's site (Carle, 1982) in Washington County. Last year Clark Shiffer had also surveyed this site, which is the only known locality where *G. consanguis* and *G. rogersi* occur together. Leroy and I observed approximately 50 *G. rogersi* but only a handful of *G. consanguis*.

I contracted pneumonia several days later and was sidelined for two weeks, requiring me to reassign this project to Dirk Stevenson. I sent him out to southwestern Virginia during the second week of June with a copy of Westfall and Trogdon's 1962 paper, one reference specimen of each of these two species and a list of potential survey sites that I had chosen from USGS topographic maps. Dirk returned triumphantly with specimens of *G. consanguis* from seven sites in Scott and Washington Counties, several of which he identified as potential habitat while driving local roads. Two of his sites are near a historical (1980) locality for this species from Scott County; one of these may correspond with the original collection site, the exact location of which is somewhat vague. Dirk reports that much additional potential habitat awaits future surveys.

Efforts are ongoing to document the entire Odonata fauna at three sites in Virginia containing significant lentic wetlands.

Fort A.P. Hill Military Reservation and selected areas in surrounding Caroline County (Coastal Plain/Piedmont). The base has numerous acidic ponds (mostly beaver impoundments), an uncommon habitat in Virginia. Since 1992, Chris Hobson and I have documented a total of 73 species at the base, nearly half of which are known

from fewer than 20 sites in the state. Two additional species have been recorded off the base. Significant finds include the first 20th century records for *Nannothemis bella* in Virginia, the third state record for *Somatochlora provocans*, the third and fourth state records for *Epitheca spinosa* and the establishment of a new southern range limit for *Celithemis martha* (found at about 10 ponds). This project is essentially completed as we have only a few additional visits planned. A manuscript documenting the fauna of this area will be prepared later this year.

I have been surveying a sinkhole pond complex on the George Washington National Forest in the Shenandoah Valley region of Augusta County periodically since 1992. A total of 48 species has been found to date, including disjunct populations of several species more typical of the Coastal Plain (e.g., *Nehalennia integricollis*, *Libellula auripennis*).

A survey of the "Grafton Ponds" sinkhole pond complex in York County (Coastal Plain) was initiated in the spring of 1995. Dirk Stevenson is doing the majority of the field work. He has sampled more than 20 ponds to date, many of which are ephemeral. His best find so far is *Ischnura prognata*, which has been taken at two ponds.

In addition to the *Gomphus consanguis* records mentioned above, the following species were among our better finds during the spring of 1995 (number of new sites per species):

*Aeshna mutata* (1), *Anax longipes* (3), *Cordulegaster obliqua* (2), *Gomphaeschna furcillata* (7), *Gomphus abbreviatus* (1; first record for southeastern VA), *Gomphus viridifrons* (1), *Helocordulia selysii* (2), *Ischnura prognata* (6), *Lanthus vernalis* (1), *Lestes eurinus* (2), *Neurocordulia obsoleta* (2) and *Tachopteryx thoreyi* (5).

Some 1994 discoveries of note included: *Aeshna tuberculifera* (1), *Anax longipes* (1), *Epitheca spinosa* (2), *Gomphaeschna furcillata* (1), *Ischnura prognata* (1), *Lanthus vernalis* (1), *Somatochlora filosa* (2), *Somatochlora provocans* (1), *Nasiaeschna pentacantha* (1) and *Tachopteryx thoreyi* (3).

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- CONFIRMATION OF THE NANTUCKET RECORD OF *TRAMEA ABDOMINALIS***
- Steven M. Roble**  
Natural Heritage and Endangered Species Program  
Massachusetts Division of Fisheries and Wildlife  
100 Cambridge Street, Boston, MA 02202
- (Current address: Division of Natural Heritage  
Virginia Dept. of Conservation and Recreation  
1500 East Main Street, Richmond, VA 23219)
- Tramea abdominalis* is a tropical species which ranges from southern Florida to Argentina



(Dunkle, 1989). Hagen (1873) tentatively reported this species from Nantucket, a well-known island off the coast of Massachusetts, on the basis of one specimen collected (on 30 August 1867 [Johnson, 1930]) by Edward Burgess. At the time of Hagen's report, this was the northernmost record for the genus. Both *Tramea carolina* and *T. lacerata* are now known to inhabit Massachusetts (Carpenter, 1991; Leahy, 1976) and areas further north, but there have not been any additional records of *T. abdominalis* from New England.

The Nantucket record was mentioned (or alluded to) in several subsequent papers, including Hagen (1875), Calvert (1905), Howe (1920, 1921), Garman (1927) and Johnson (1930). None of these authors specifically stated that the identity of the specimen had been confirmed. Muttkowski (1910) and Needham and Heywood (1929) did not include the Nantucket record in their species accounts of *T. abdominalis*, whereas Needham and Westfall (1955) listed Massachusetts with uncertainty in their range statement for this species. The last mention of this record in the literature apparently was made by White and Morse (1973). These authors discounted it as a likely misidentification of either *T. carolina* or *Pantala hymenaea*, presumably on the assumption that the specimen had been lost or destroyed. Leahy (1976) did not include *T. abdominalis* in his checklist of New England Odonata. Recent reports (Soltesz, 1992) of fall flights of *Tramea calverti* along the east coast of the United States as far north as New Jersey and New York raise the possibility that the Nantucket record might refer to this species.

Hagen (1873) stated that the Nantucket specimen was in the "Cambridge Museum", presumably referring to the Museum of Comparative Zoology (MCZ) at Harvard University in Cambridge, Massachusetts. Many of Hagen's specimens, including numerous types, were deposited in this collection. While checking the MCZ several years ago for records of Massachusetts Odonata, I searched unsuccessfully for the Nantucket specimen of *T. abdominalis*. During discussions with David Furth, former collection manager at the MCZ, I learned that most of the natural history collection of the long-defunct Boston Society of Natural History (Hagen's report appeared in the Proceedings of this society) is currently in the MCZ, but a significant portion is also housed in the museum at Boston University (BU) and a much smaller remaining portion is at the Boston

Museum of Science (BMS). I had previously checked the very small collection of Odonata at the BMS, but did not find any specimens of *T. abdominalis*. However, my efforts were rewarded when I located the Nantucket specimen in the BU collection. It is still in good condition (pinned) and clearly identifiable as *T. abdominalis*, thus confirming Hagen's (1873) original determination.

Howe (1921) hypothesized that *T. abdominalis* reached Nantucket by being blown north by the prevailing summer winds. Perhaps a hurricane or other significant storm event might have aided the specimen's northward movement, although I have not attempted to confirm this possibility by researching historical accounts of the weather during the summer of 1867. Considering the frequency with which bird watchers find storm-blown birds well beyond their normal ranges, it does not seem very unlikely to me that this also occurs to dragonflies on occasion. However, the limited number of dragonfly observers/collectors as opposed to bird watchers greatly reduces our opportunities to document such events if they occur. [See Jackie Sones' interesting article in this issue! Editor]

As stated recently by Donnelly (1994), a specimen of the western species *Aeshna multicolor* is known from the nearby island of Martha's Vineyard (Beatty and Beatty, 1969). Both of these species are clearly extremely rare accidentals in Massachusetts.

I thank the following individuals for granting me access or facilitating my visits to collections in their care: Dr. David Furth and Mr. Stefan Cover (MCZ), Dr. James Traniello and Ms. Mary Lezniak (BU) and Ms. Alice Berlow (BMS). Ms. Nancy Adams (USNM) provided bibliographic assistance.

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## DRAGONFLY FLIGHTS ON CAPE COD, MASSACHUSETTS

Jackie Sones

Over 2,000 Swamp Darners (*Epiaeschna heros*) were observed near Race Point in Provincetown, Massachusetts, on 2 June 1995. A flight of this magnitude had not been recorded on Cape Cod before, and seemed to warrant documentation. A second dragonfly flight was observed on 6 June 1995, which involved fewer individuals, but a much greater diversity of species.

**1 June 1995** The excitement began at approximately 14:00. While on a boat in Wellfleet Harbor, two *Epiaeschnas* flew up underneath the

eaves of the boat, and one other individual was spotted flying low over the water in a southwesterly direction.

At 17:42, near High Head in North Truro, Blair Nikula and I counted over 20 large dragons. All were identified as *Epiaeschnas*, except one which was most likely a *Pantala*. Their flight direction was from northeast to southwest, into the prevailing winds, which were blowing at approximately 15-20 mph. We continued counting until 20:02, and reached a total of 268 *Epiaeschnas*!

We were bewildered by that number, and the questions began: Where were they coming from? Where were they going? Would there be more tomorrow? Would they be roosting nearby? Would it be possible to find some in the morning?

**2 June 1995** At 06:52, while walking Race Point beach in Provincetown, I saw one *Epiaeschna* flying towards the dunes. I had found Monarchs (*Danaus plexippus*) in the wrack line here before, and wondered if there might be an *Epiaeschna* today. I was looking amongst the seaweeds, when a second *Epiaeschna* passed me, flying about three feet off the ground in a southwesterly direction. I counted 12 more individuals within 15 minutes, but had noticed others flying along the foredune, so moved up the beach, sat on top of the foredune, and faced northeast.

It was now 07:20. At first *Epiaeschnas* came by to my right or left, in ones or twos. They followed the contours of the dunes, moving just above the tops of the beach grasses. At 08:00 they started to come by faster, in greater numbers, and seemed to be favoring the outer edge of the foredune. Some flew within one foot of me, and often the whirring of wings was audible. From time to time, I scanned the inner dunes with binoculars, and noticed more dragonflies passing by there.

At 09:33 the *Epiaeschna* count was at 2,000, and they were still coming strong! Other species seen among the *Epiaeschnas* included at least 9 Common Green Darners (*Anax junius*), 4 Rainpool Gliders (*Pantala* spp., one definitely *P.*

*hymenaea*), and 1 Painted Skimmer (*Libellula semifasciata*). Unfortunately, at this point I had to depart.

At 11:45, while driving south along Route 6 in Provincetown and Truro, over one hundred large dragons were seen flying across the road from east to west. I collected one of at least 15 roadkilled *Epiaeschnas*. At 14:30 I returned and picked up two more roadkilled *Epiaeschnas*.

At 17:30 I met Blair Nikula at High Head in Truro where he had found *Epiaeschnas* roosting during the late afternoon. We saw several males and a few females, all of which were perched on Pitch Pines, anywhere from one to 12 feet off the ground.

The weather throughout the day consisted of mostly clear skies, a few high clouds, temperatures in the 60s and 70s, and southwest winds at 15-20 mph.

**6 June 1995** After hearing a forecast predicting southwest winds, I headed up to Race Point in Provincetown. The skies were clear, temperatures were in the 70s, winds were blowing from the southwest at 10-15 mph, with some higher gusts.

Arriving at 09:00, I walked down the beach, checking the wrack line for dragons. With binoculars, I scanned the horizon every now and then, and picked up an *Epiaeschna* flying along the foredune at 09:20. I returned to the same position as on 2 June, on top of the foredune facing northeast. The following is a progression of the odonate flight seen from 09:20 until 13:20.

6 June 1995	9:20 -	10:00 -	10:30 -	11:00 -	12:00 -	12:30 -	Total
	10:00	10:30	11:00	11:30	12:30	13:20	
<i>Epiaeschna heros</i>	15	10	33	56	30	10	154
<i>Anax junius</i>	8	4	6	10	8	12	48
<i>Libellula semifasciata</i>	6	24	31	11	31	25	128
<i>Pantala</i> spp.	2	2	2	1	2	2	11
<i>Tramea lacerata</i>	1	0	0	0	1	0	2
<i>Tramea carolina</i>	0	0	0	0	1	0	1
<i>Tramea</i> species?	0	1	0	0	0	0	1
<i>Libellula vibrans?</i>	0	0	3	5	3	1	12
<i>Epicordulia princeps</i>	0	0	1	0	0	0	1
unknown	1	2	1	0	0	1	5
TOTAL	33	43	77	83	76	51	363

The following field notes were taken during the flight:

Some feeding was evident. Several *A. junius* paused and chased smaller insects. A few *Epiaeschnas* flew by, clasping large prey.

There were a few female *A. junius*, and four pairs of *A. junius* flying while in tandem.

Three of the *Pantallas* were identified to species: two *P. hymenaea* and one *P. flavescens*.

One *Tramea* was definitely not *T. lacerata* or *carolina*. The abdomen was a deep wine red. The hindwing spot was very thin, and relatively straight-edged. Based only on pictures in Dunkle's Dragonflies of Florida, Bermuda, and the Bahamas, I lean towards *T. abdominalis*.

The large dragons identified as *Libellula vibrans* had the following characteristics: large size, in

flight appearing almost as large as *A. junius*; a powdery light blue abdomen, color most like *Erythemis simplicicollis*; very obvious wing markings: dark smudge at tips of wings, small spot at nodus, and a very dark, long stigma. This description is based on eight apparently mature males. Four female types were observed; they showed a brown and cream colored thorax and abdomen, and wing markings similar to those of the males.

All dragons showed a very direct flight, in a southwesterly direction, apparently following the dune ridge.

If anyone has seen or read about any other dragonfly flight like this, I'd love to hear about it! Please write to me at 2 Gilbert Lane, Harwich Port, MA, 02646. Thank You!

## WELCOME SWEET SPRINGTIME

Bob Barber

### Great Beginnings!

We have relatively warm winters in Southern New Jersey, but odonate season still comes too slowly. I am always out early in the season searching for early emerging species in Cumberland County. In 1995, I was rewarded by finding a fairly large population of *Tetragoneuria spinosa* in the third week of April. This species was thought to be long gone from New Jersey, with no records for about 80 years. I eventually found that they could be found on two streams, a lake, and the headwaters of a river, all on interconnecting watercourses, in parts of three counties. In May I was still searching for *T. spinosa* exuviae (I found a few), but was only finding large numbers of common species such as *Gomphus exilis*, *Basiaeschna janata*, *Didymops transversa*, and *Tetragoneuria semiaquea*, which had now emerged in large numbers.

On a gravel bar in the Maurice River, I found one exuvia that I recognized immediately as one of the *Hylogomphus* tribe. I also knew that the only species of this group that ever has, and certainly ever will occur in Southern New Jersey is

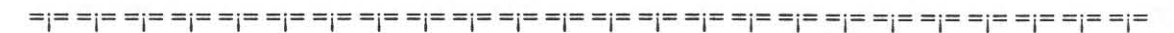
*Gomphus apomyius*. I have made special efforts to find this species in past years without success. This species can no longer be found at the Burlington County site where Nick Donnelly discovered it, and has severely declined and might be gone from an Atlantic County site. Richard Orr found a new population in Ocean County in 1994, but the extent of it is unknown. I eventually found that this *G. apomyius* population could be found at all of the same stream and river localities that I had seen *T. spinosa*, but of course these did not occur on the lake. I found them in low numbers at most localities, but at one site I picked up 122 exuviae in about 100 feet of stream bank. I wouldn't hesitate to say that this area has a very healthy population of *G. apomyius*. All exuviae were collected between 21 May and 2 June. I had not surveyed this area in the past because it was heavily posted and patrolled by the Dupont Corporation. Last July, Dupont donated 1,035 acres here to The Nature Conservancy. Two of New Jersey's rare odonates protected!

**An Interesting Exploration: Exuviae Produces Anomalous Data (pun intended)**

In July, I will be attempting to relocate a historic population of *Stylurus notatus* in the Lake Champlain region of the Adirondacks in New York. My time in July will be limited, and I know from experience how much time can be wasted driving to sites that aren't worth your effort once you get there. I took some vacation time in June to scout for sites to visit in July. After locating sites that look good for *S. notatus*, I made some side trips for my own interests. When I think of the Hudson River, I think of pollution, garbage scows, and the Statue of Liberty (pick your own order), although it has been cleaned up somewhat in recent years. I decided to see what the headwaters looked like in Warren County, New York. It was a cloudy cool day when I made my first stop, but I immediately noted large numbers of exuviae in the rocks. The first few I picked up were *Ophiogomphus mainensis*, but the next was *Ophiogomphus anomalus*, easily identified by the broad, shiny, antennae tips. I collected a large number of exuviae at this site, and the next day I collected more at two other sites farther upriver. My final count was 118 *O. anomalus* exuviae. Most impressive were the relative numbers at North Creek, where *O. anomalus* exuviae outnumbered *O. mainensis* (45 to 28). Both days were cool and cloudy and I found no adults. From what I know of *O. anomalus*, I probably wouldn't have seen any if the weather was perfect. During the trip I collected samples of exuviae from 10 sites, all rivers and streams, in Warren and Essex Counties (772 exuviae). After returning home I discovered that I had collected one *O. anomalus* exuvia from the Ausable River, in Northern Essex County, and two exuviae of what are most certainly *Ophiogomphus howei* from the Hudson River. I am waiting for confirmation from Nick Donnelly on these [They are *howei* all right. Nick Donnelly]. *O. anomalus* was previously known in New York, only from the upper-Delaware River.

This population has been intensively studied by Ken Soltesz for the past three years. *O. howei* was previously known from New York from the Susquehanna River near the Pennsylvania border.

Nick Donnelly only listed 13 species in Warren County **Odonata of New York (BAO vol. 1 no. 1)**. I plan on surveying this area more thoroughly in the future. Currently, the Northeast range limit for *Gomphus viridifrons* is the upper-Delaware River, but I would not be surprised to find them on the upper-Hudson as well. I collected good numbers of this type of exuviae but only *G. adelphus* adults were seen on the river. Needham's key does not work on these and I don't know of anyone who has one that does. *G. adelphus* and *O. mainensis* were the most conspicuous gomphids on all of the rivers and streams that were visited. Many teneral *Lanthus parvulus* were fluttering up from the stream banks at some locations as well. Other gomphids identified from exuviae or adults were *Ophiogomphus aspersus*, *O. carolus*, *O. rupinsulensis*, *Gomphus descriptus*, *G. exilis*, *G. lividus*, *G. quadricolor*, *Dromogomphus spinosus*, and *Stylogomphus albistylus*. One (very early?) *Aeshna* was found emerging that turned out to be *A. eremita*, and one exuvia was found of *Neurocordulia yamaskanensis*. At some sites *Helocordulia uhleri*, *Basiaeschna janata*, and *Didymops transversa* were conspicuous. *Calopteryx amata* was found at many places, as well as *C. maculata*, but surprisingly no *C. aequabilis* (too early?). I briefly stopped at one pond/bog site since this habitat type was not on my agenda, but it was teeming with *Enallagma antennatum*, *E. boreale*, and *Tetragoneuria canis*. I can't wait until July to see if the *Stylurus* quest will be as rewarding.



### QUEBEC TRIP: A FEW COLLECTORS FIND MANY DRAGONFLIES

**Nick Donnelly**

Several last-minute cancellations reduced the attendance at the Quebec weekend trip (June 24 - 25) to seven. The group stayed in a cabin complex on Lac Jean-Venne. We were hosted by Monty and

Grace Wood (Monty is a Canadian dipterist of note) who provided a superbly comfortable accommodation in a beautiful forested setting. Monty accompanied us in the field and gave us some new concepts to chew over. I was especially struck by his remark, "Now here's a really nice tabanid."

Our group (our leaders Raymond Hutchinson and Benoit Menard of Gatineau, two Woods, two



One of the limiting physiological requirements for all active organisms is that there be a sufficient supply of oxygen to oxidize the metabolic products of muscle activity. In the absence of sufficient oxygen, all active organisms cease functioning at some point when these metabolites accumulate in the blood stream (the insect equivalent of "hitting the wall"). Insect respiratory systems are fairly rudimentary and might place an upper limit to the size of insects. If an insect doubles in linear dimensions, it increases in mass by the cube of 2, or eight. Its respiratory capacity should increase by the square of 2 (area of tissue), or 4. Scaling should place an upper limit on the size of a flying organism.

I have often thought about this problem in the following years but abandoned the high-oxygen notion in favor of small size resulting from

increasing predation pressure. I had also, perhaps mistakenly, assumed that somehow there was excess respiratory capacity in flying insects. I still think predation plays a role, but perhaps a minor one.

This article is stimulating and I recommend any readers with an interest in physiology read it. I am still bothered by the very large size difference. The late Paleozoic meganeurids were larger by a factor of 4 (linear dimensions) which implies a 64 X increase in mass. Is it logical that a 50 - even 75 - percent increase in the oxygen pressure would be sufficient to explain this large size? In other words, how do you scale physiology? I would appreciate comments from readers.

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**YOU'RE NOT ALONE: THE BARLOW-MICHALSKI NORTH CAROLINA EXPEDITION OF  
MAY 1995**

**John Michalski**

90 Western Avenue, Morristown, NJ 07960

Perhaps you've heard this one.

Allen called me one day and suggested we go down to North Carolina for the Memorial Day weekend. He'd read a lot about the rediscovery of *Ophiogomphus edmodo* and, well, he wanted one. I was working at an urban high school where the school banner is a skull and crossbones, and the school motto is, "sometimes bad things happen to good people," and I needed a break myself. I said, "Sure".

Allen was big on the Weather Channel. All week he was watching the screen like one of those guys in *The Hunt for Red October*. As the weekend approached, it started to look as though it might be rainy when we got there. But you know how it is -- if you decide not to go, it'll be sunny. You never can tell. So we set out for North Carolina in high spirits. What the hell, we said, if it rains on us, we'll look for emerging naiads -- or even salamanders.

We drove straight through the night, in shifts, the way we did before either of us were married, when we used to go in for bug weekends at the New

River near Independence, Virginia. But six years is a long time in the world of "man, I'm really getting too old for this sort of thing," and we were suitably tired and shagged-out on our arrival. I discovered that I'm just old enough to take the plane next time.

From the outset, our greatest liability had been an acute shortage of fresh acetone. This turned out to be one of our logistical successes.

When you're arriving at your destination at sunrise, you have a few hours in which to kid yourself about the weather. "What beautiful mist," we opined, "it's like a fairyland." Great. But by thirty it was clear that we were to pass the *day* in fairyland which, though pleasant enough if you like that sort of thing, was not however, dragonflyland. What we were looking for was dragonflyland. As it turned out, North Carolina had for weeks been broiling under a hot, sunny weather system, and we had arrived just in time for the burst of cool, rainy weather that the local populace had been praying for.

The countryside was indeed breath-taking; there's no way to minimize that fact. We had followed Tim Vogt's directions to Wilson Creek, which is sort-of inside Pisgah Forest Reserve, north of Morganton and south of Globe. There was a quite a bit of discarded trash and the refuse of campers and fishermen, but even with these distractions the place was obviously the most lush and pristine environment that either Allen or I had ever visited in the eastern U.S. Huge rhododendrons cascaded down the steep hillsides, while a dozen species of ferns drooped amid mosses and liverworts over the fallen tree trunks and rocky outcrops. Huge hemlocks and fir trees towered overhead. It was genuinely lovely. Unfortunately it was also misty and rather cool as well.

Our most startling finding was that Wilson Creek appears to host a relict population of the Antarctic fauna. Of course, there are no penguins here but the odonates of the two places are identical. The only exception this weekend was a teneral *Macromia margarita* but this must have been a stray from another location. In any case it landed on a tree limb far out of reach.

We next took the approach that, perhaps, the weather would warm things up in an hour or two. We began seeking exuviae on the rocks along the creek. But the down-swept appearance of the land plants indicated correctly that this, too, would be in vain. Panic set in; as the mist condensed into raindrops, we began to search for craneflies (c.f. Michalski, 1995, *ARGIA*, 7(1), *New Guinea Continued*). We tried to look on the bright side; neither one of us was sequestered on the O.J. Simpson jury.

As the sun passed its apogee behind a blanket of cirrus clouds, we finally surrendered to the aquatic juggernaut blowing toward us from our nation's heartland. Those in my inner circle will know that I keep several terraria of frogs, lizards, and various herpetological bric-a-brac. 1995 was beginning to look like Allen's Year Of The Amphibian as well, so we cheerfully switched our attentions to the Smoky Mountains' quality assortment of salamanders. Such weather as we were enduring is actually ideal for spotting amphibians, and in the heart of the Smokeys we were truly in Salamander Central.

But the pristine wilderness has its pitfalls here as well. Fallen logs decay. Loose stones lie buried under inches of rich, humusy topsoil. Put simply, we needed rocks and things to turn over, and there was a nasty shortage of rocks and things.

We began to grow sullen. Allen found a stonefly and ate it. We took a few more breaths of delicious moist mountain air and headed back to our motel for the night.

The next morning, rather than stick around as we had originally planned, we decided to start our return trip, so that we could take it at a leisurely pace. I had to teach school again on Tuesday, so getting home by noon Monday could only help. And it was a good decision: on a spur-of-the-moment side trip to the New River, we finally hit pay dirt with the discovery of three waterlogged exuviae. We proudly carried home our weekend's booty in an empty film canister.

The trip was not without its successes. Back in Morganton, Wendy's was running a special on their bacon double cheeseburgers, and the french toast at Mister Omelette was a superb value at \$1.85.

By Sunday we could see, from all the weather charts, that New Jersey was, quite naturally, enjoying a burst of the kind of warm, sunny weather that we had traveled nine-hundred miles for. So we changed our course one last time, to allow ourselves to pass through the New Jersey Pine Barrens on our return home. We were well-familiar with anything we'd be likely to collect there, but -- what the heck -- it would be fun.

Once we got past Baltimore, we noticed we were picking up the New York station on our car radio. The familiar weather lady gave the forecast: violent thunderstorms, with hail likely and -- I am not making this up -- a good chance of tornadoes. Tornadoes! What else could happen to this ill-fated excursion? Needless to say, we dared not ask that question in the open. Our car might be trampled by stampeding elephants.

In a nutshell, what we achieved was a fine two hours' collecting in the New Jersey Pine Barrens, by an admittedly scenic route -- fifteen-hundred miles instead of the sixty-eight it usually takes me! But, all kidding aside, the Wilson Creek area is absolutely breath-taking. You can easily imagine





spent two nights there. Eventually we realized collecting would only get better and we drove on to San Antonio. The city seemed dismal and hot, and we passed through quickly. Despairing of finding a camping place near the city, we drove south and we tried a small turn-off by a railroad track near Floresville. It was a truly dismal place - not even a picnic table on the muddy track. But the next morning we realized we had really hit it big. The little stream there wasn't terribly clean but it had lots of dragonflies flying up and down. A ghostly gray bug flew swiftly - it was *Macromia annulata*, which was also a great find. There were abundant *Hetaerina titia* and an *Argia* that we couldn't name (later we found out it was *immunda*). But the main attraction was GOMPHINES! In addition to *Erpetogomphus designatus*, *Progomphus obscurus*, and *Stylurus plagiatus*, there was something else - something larger and brightly marked. We figured it must be a *Gomphoides* - which became the Holy Grail *du jour*. We stayed there for three days, largely to get that *Gomphoides*.

I had developed some minor car trouble (The steering mechanism was shaking ominously whenever I hit a bump.) and left George by the stream the second day to go into San Antonio to find a repair. Do you know that feeling when you are far from home, with New York license plates, and you roll into a car agency with some sort of (hopefully) minor problem? Well, there I was. The service person looked at the car, looked at me, announced that it was a fairly major problem, would cost about \$20 (a vast sum of money), and would take several hours to fix. While I was reeling from that blow, into the agency strides - can you believe it - a high school classmate who I suddenly remembered was from San Antonio and whose father owned a Studebaker agency.

"Hi, Joe".

"Hi, Nick".

"What are you doing these days?"

"Helping my old man with the agency".

All this in front of the service person. The car was fixed in 20 minutes and the new pitman-arm bushing cost only \$3. Some times you get lucky!

I returned late that afternoon to find that George still had not taken that *Gomphoides*. Desire had long since grown to obsession, so we decided that another day was required. Because the stream was small we agreed that each of would have alternate hours to himself. Finally, at the end of the third day I caught a male of *Gomphoides albrighti*. All Right. . . ! When we left that afternoon George was not a happy camper, but he was a good sport.

We camped that night at Goliad State Park, site of something which is precious to the Texan heart but which escapes me at the moment. For us, it was a fine site on the San Antonio River. The next day we found oodles of *Neoneura aaroni*. Lone males of this tiny damselfly were skimming over the water too low to net, but there were oodles or pairs ovipositing on floating wood chips. Every chip that floated by had some, and a few chips had as many as half a dozen pairs, with the females ovipositing and the males all hovering above them attached to their thoraces. It was an enchanting sight and I got some lovely photos.

We left that afternoon heading for Victoria and the coast. Why were we heading east at all? We were heading for the legendary Black's Bayou where Mr. Williamson 47 years earlier had caught what he thought was *Gomphus consanguis*. [It turned out much later to be a female of *G. vastus*, whose Texas version is a bit different from the midwestern bug we all know so well.]. We never learn from our mistakes. The site was very unattractive, and we stayed only a few moments before pressing onward. [By the way, this was where Mr. Williamson and his two chums caught a nine-foot alligator. And you thought bug trips were tame.]

Now we abandoned, and high time, any desire to revisit anyone's great localities of the past. We drove through Corpus Christi and headed for Lake Corpus Christi State Park. There we were enchanted to find yet another gomphine - *Aphylla protracta*. I was getting absolutely smitten with clubbed tailed dragonflies, and we revisited the park the next day to take some more. For some reason I was also smitten by the *Miathyria marcella* that swarmed there. There is no accounting for tastes.

We found a camping spot near Sandia, on the Nueces River. This was a two-day locality and in this sandy and thoroughly beautiful river we added *Lestes sigma* and another *Lestes* which George

never did identify. [He thought it was *forficula* - the specimens later vanished.]

We now pressed on to the Rio Grande and arrived in the Bentsen Rio Grande Valley State Park after dark, as usual. One interesting thing about arriving in the dark is that you never know what will greet you when you wake up. What I saw that next morning from my sleeping bag was a pair of green jays staring at me from a distance of about three feet. This had to be the tropics!

We collected there for a while. It wasn't very interesting, but we did find the first US record for the genus *Macrothemis* (the species was *inacuta*). We wandered around looking for something better and found a few pools along a railroad track near Penitas. We found several more *Macrodiplax* there, so we lingered a bit. Suddenly I saw a darkly marked libellulid flying right at me - *Pseudoleon*! This was the new Holy Grail *du jour*. We didn't catch it, but we saw a few more during the trip. We never did catch one. [digression time. Two years later I met Minter Westfall by chance in Garner State Park - on my advice he had camped there on a western trip with his family, but I had no idea we would meet him there. While we were getting acquainted and having a good chat, his young son David ran up with a net and said (You've already figured this out), "What's this, daddy?" What else? A *Pseudoleon*! This digression's not over yet. Six years later I found the species in Nicaragua. I pigged out, but later found them common along hot, dry paths in eastern Guatemala where I was conducting a geology project. They are very beautiful insects with the most amazing striped eyes.]

George had carried with him on the trip a copy of the Naturalist's Directory and found the name of a bug person in McAllen. He insisted that we visit him to get advice on local collecting places, so we did. The person was pleasant to us but couldn't think of any good places [There are none, in fact.] He did suggest that if we wanted to visit Mexico (and we did) that we might unload our car and leave our junk in his garage for the day.

Thus we drove over to Reynosa for my first FOREIGN COLLECTING. I remember little of this day. At the border the official didn't ask our religion - he simply wrote "Protestante" in the appropriate space. We drove down dusty streets and bought a six-pack of Corona beer to take back

with us. [Mexico has much better beer, I discovered years later.] Then we drove a few miles south to see what the country looked like. It didn't look much more promising than Texas. We did find a *Micrathyria hageni* in a small muddy stream along the road, and we found several rather small *Stylurus plagiatus* emerging on a small river. We returned having decided that the Rio Grande valley (Rio Bravo del Norte on the other side) was really the pits.

We retrieved our things in McAllen. Our friend gave me an old 22 caliber rifle that he had used to shoot cicadas out of the tops of trees in his younger and better days. He said perhaps I could use dust shot to get some dragonflies. My notes the next day read, "*Anax junius*, male shot and discarded; *Libellula needhami*, male shot and discarded; *Orthemis ferruginea*, one male shot, another netted; *Macrodiplax balteata*, one male, another shot and discarded." And at another locality that day, "unknown gomphine, probably *Aphylla protracta*, one male sitting in low vegetation, and finally in a low tree, where it was shot, but no part of it was found." For a day our trip was like the OK Corral.

With Mexico behind us, we realized that we were still only half way to Pasadena and we had used all but about eight days. We had to push very hard now. The old Studebaker was using oil at an alarming rate. (I found out later that I had lost a chip on the corner of one of the pistons) We stopped at Western Auto stores and I purchased the cheapest "jug" oil, 40 weight, which I put into gallon cans.. When the oil pressure gauge started to falter we simply stopped the car and filled up - every 150 miles! The air behind the car was heavy with blue smoke.

Our first stop after leaving the Rio Grande valley was Garner State Park. Today the park fairly hedges with masses of people frolicking in the Frio River. Back then there was a small sign indicating the entrance and - if I remember - little else. Especially no people. We found this place superb for odonates and beautiful in the bargain. Both species of *Gomphoides* were there, one of them prey to an *Anax junius*. We saw another *Pseudoleon* but failed to catch it. We added the remarkable *Libellula comanche* to our growing list. We were unable to place names on all the *Argias* in the field; one puzzling little violet species turned out later to be *hinei*.

Leaving Garner, wishing we had not spent so much time lingering on earlier stops, we put the pedal to the metal and plunged into west Texas. My, Texas is one big state. [And, my, that is one hot state to cross during a record hot summer! Ever wonder why Texas is so big? How would you propose to divide it? Who would want all those bits?] Our next destination was Balmorhea State Park Recreation Area, whose name we had spotted on our dog-eared Conoco road map. We arrived in the dark as usual and set up shop immediately. I remember finding a beautiful tenebrionid beetle in my dinner, fortunately just in time.. The next morning we found ourselves truly in the desert, next to a spring-fed stream which issued in the nearby hills ("Phantom Lake" - the name is a joke) and finally ended up in an immense rice field after providing the citizenry of west Texas a chance to sport in the cool water. And the odonates sported with them. Here we added typical southwestern desert species: *Libellula saturata*, *Paltothemis lineatipes*, *Aeshna multicolor*, and *Argia lugens* (which we called *Hyponeura*). I puzzled over a series of blue *Argia* I collected and eventually called them *agrioides*, but believed there were two species. Perhaps I can be forgiven for using this name; Dolly Gloyd did not publish her Trans-Pecos paper clarifying the status of *nahuana* until four years later, and the second species has only just been described as *A. leonorae* by Rosser Garrison! We didn't even know that we had taken our first new species. After spending a second night there, we high-tailed it for Arizona.

I have no record of where we spent the following night - it must have been somewhere along the highway in the desert. We reached Arizona on the 16th of September and drove up into the Chiricahua Mountains. The name "Cave Creek" intrigued us and we soon found ourselves in relatively cool ponderosa pine forest. The creek was beautiful and we found oodles of *Archilestes grandis*, the largest lestid damselfly in North America. [I had a particular interest in this species, having found it in suburban Washington in 1949. Later we all realized that the species is still spreading into the northeastern US.]

The bug *du jour*, however, was a large *Aeshna* that flew rapidly down the canyon in the late afternoon. With some luck (not to mention consummate skill) I took two males. We didn't recognize the species but thought that it might be Kennedy's *arida*. [Later an examination of the holotype of *arida*

showed it to be a large *palmata*, and I named our specimens *A. persephone*. - our second new species.]

Pushing on the same evening we drove to Tucson, where we reached Sabino Canyon (another name on a map - we had no guidance) very late at night. We could see by flashlight that this was a beautiful sandy stream with gigantic granite boulders every where. We wearily put our sleeping bags on the ground (no need for that tent now) and had our simplest dinner - canned chop suey. While we gobbled this down we became aware of small visitors in the bushes just beyond the light of the lantern. We decided not to wash the dishes in the stream but leave them for the visitors. As soon as we crawled into our sleeping bags and extinguished the light we were overrun by spotted skunks. The little devils even ran all over our sleeping bags in their mad effort to reach the remains of the dinner. Another nature note: Spotted skunks love chop suey.

The next day (does this sound familiar?) we plunged in all senses into the creek. There was a particularly appealing large violet *Argia* that we sensed really was new. It has just been officially named *A. sabino* by Rosser Garrison, although everyone has used this name informally for forty years. These were the most abundant *Argia* in the creek, outnumbering the smaller violet *hinei*. We delighted in watching the *sabino* ovipositing under water in thin moss coverings of granite boulders. Some of the pairs descended nearly six inches below the water, with the males gamely hanging on to the females. As appealing as the *Argia* were, the stream beckoned the hot and weary collectors and we made a game of finding the highest cliffs and playing Tarzan by diving into the clear icy waters of the creek. [Another digression. While I was at Cal Tech I found excuses to stop again at this creek, most notably in September 1955. Then I found an additional large pale blue *Argia* which I thought was close to *lacrimans*. It has now been named *Argia pima* by Garrison.]

There were other good things at Sabino. *Progomphus borealis* was found on small numbers on sand bars and *Erpetogomphus natrix* was common on the boulders of the stream. We added *Libellula croceipennis* to our list and found a few *Perithemis intensa*. The most spectacular bug, however, was the huge *Anax walsinghami*, North America's most massive odonate.



## DSA BUSINESS

### 1995 DSA FINANCIAL REPORT

**Jerrell Daigle**, Treasurer

At the request of Nick Donnelly, I have prepared a short summary of the **ARGIA** and **BAO** financial account from late 1994 to present.

Dues for both journals are combined together in one savings account at the Sun Bank in Tallahassee, Florida. We began the 1995 year with a 1994 balance forward amount of \$3,706.60. The income and expenses for 1995 are listed below. Presently, our current account is \$6,302.65.

So far, we have received 1995 dues totaling \$4,129.31. Our only expenses (-\$1,523.39) have been a combined mailing of **ARGIA** Volume 6:4 and **BAO** 2:4 to cut down on mailing costs.

I plan to present a brief current financial report at the August DSA meeting in Silver City, New Mexico. Also, I will distribute a just few copies of the report to the media because I want to create as much room as possible in my suitcase for *Ophiogomphus alfredo!* See you there!

Editor's Note: The increase in postage rates and the increase in the minimum weight for third class mail impact the DSA especially hard. There will shortly be an increase in foreign mailing costs.

We will prepare a recommendation for consideration at Silver City that the 1996 dues for the society be increased modestly to cover these increases in expenses.

### ELECTIONS OF NEW OFFICERS

According to the by-laws, a new president-elect must be selected at the annual meeting in odd-numbered years. Accordingly, President George named a nominating committee. At the same time he solicited additional nominations from the membership (distributed with the last **ARGIA**). There were no additional nominations. The committee recommended that Rosser Garrison be

named president-elect, and this action will be taken at the Silver City meeting.

At the same meeting the president will ask for nominations for members of the executive committee.

**BACK ISSUES OF ARGIA AND THE BAO**

The editor is able to provide back issues of ARGIA. Several of the issues will be xeroxed, as original copies of many issues have been exhausted. Please contact T. Donnelly, 2091 Partridge Lane, Binghamton NY 13903. Each of the previous volumes of ARGIA has at least one issue that requires duplication. Because of high mailing and duplicating costs, the back issues cannot be sent at the old price. The present price schedule takes into account the different costs of duplication of each number of ARGIA. In the event that an issue becomes exhausted, then xerox copies will be sent. **Prices do not include postage; see below.**

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# ARGIA

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